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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,068	07/23/2001	Ulrich Eisele	10191/1784	9769

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EXAMINER
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DERRINGTON, JAMES H

ART UNIT	PAPER NUMBER
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1731

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DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/830,068

Applicant(s)

EISELE, ULRICH

Examiner

James Derrington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Claims 19-38, 40-46 and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation in claims 19 and 33, "converting the gaseous, organic, bake-out product" is vague and indefinite and appears to be incomplete. The claims should specify "to what" the product is converted. Similarly, new claims 38 and 45 recite "converting the gaseous hydrocarbon" but do not recite the product of conversion.

Claim 42 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has not pointed out support for the term "steeping".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-24, 33-42, 45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herron et al (4,971,731).

This reference discloses all that is recited in claim 19. Specially Herron et al disclose the method of disposing a plurality of green ceramic substrates, i.e. multilayer ceramic substrate laminate containing a hydrocarbon binder and having printed circuits

between porous setter plates during debinding and sintering operations. A catalytically active substance is included in at least one of the setter plates (Figs. 1 and 2, Cols. 5 and 6; and note specifically Col. 6, lines 25-35, Col. 6, line 52, Col. 7, lines 8-10, Col. 7, lines 34-37 and Col. 4, lines 30-32).

Herron et al disclose that the catalytically active substance can be located at a number of positions, e.g. within the setter (Fig. 5) and on the bottom of the substrates, and other positions so long as the substance is proximate to the substrates. Herron et al also disclose the use of ceramic separating layers (22) and (24). Thus the features of dependent claims 20-22 if not explicitly shown by Herron et al would have been clearly obvious to one of ordinary skill in the art in view of these teachings. The Figs. of Herron et al depict the device as recited in claims 33-37. The elements 234 (Fig. 5) qualify as "gas outlets" or would clearly suggest gas outlets in view of Col. 7, lines 34-40.

Applicant's response has been reviewed; however it is not persuasive for the following reasons. Herron et al relates 1) to the removal of organic binders (Col. 1, line 7 ff), 2) where the polymeric binder upon heating depolymerizes into carbon (Col. 3, lines 37-38) and 3) the metal oxides enhance removal of the carbon (Col. 6, lines 2-6). Moreover, Herron et al refers the metal oxide, e.g. copper oxide as a catalyst (See sentence bridging Cols. 5-6). Additionally Herron et al show the copper oxide added to the setters (Col. 7, line 35 ff) and the setters are preferably porous (Col. 7, line 7 ff). It is clearly unreasonable to conclude that the catalyst is not contained in the pores of the setters in view of these teachings.

Claims 19-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herron et al (4,971,731) in view of Brownlow et al (4,474,731).

The Herron et al reference has been discussed above. The Brownlow et al reference discloses a related process where catalytically active substances such as palladium are used to aid in binder removal (See Abstract). The catalysts can be added in the form of salts such as nitrates or acetates (Col. 3, line 23 ff). It would have been obvious to use palladium salts in the claimed manner and for the intended purpose in view of the combined teachings of the cited references. This is particularly true since Herron et al disclose that other catalytically active substances may be employed (Col. 7, line 53 ff). Herron et al disclose a low temperature treatment during formation of the setters (Col. 7, line 18) and hydrogen atmospheres are shown in the working examples. The recited features if not explicitly shown would have been clearly obvious to one of ordinary skill in the art in view of the combined teachings of the references.

It does not appear that applicant has presented separate arguments in regards to Herron et al in view of Brownlow. There is clearly incentive to combine these references because they are directed to the same art area of improving binder removal from ceramics including catalytic removal by the use of metal additives.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Derrington whose telephone number is 703 308-3832. The examiner can normally be reached on 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703 305-7718 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

  
JAMES DERRINGTON  
PRIMARY EXAMINER  
ART UNIT ~~137~~ 1731

jd  
June 30, 2003